



5-2005

Exposure to Secondhand Smoke and Nicotine Dependence

Chizimuzo T.C. Okoli

University of Kentucky, ctokol1@uky.edu

Ellen J. Hahn

University of Kentucky, ejhahn00@email.uky.edu

Steven R. Browning

University of Kentucky, srbrown@uky.edu

Mary Kay Rayens

University of Kentucky, mkrayens@email.uky.edu

Click here to let us know how access to this document benefits you.

Follow this and additional works at: https://uknowledge.uky.edu/nursing_present



Part of the [Nursing Commons](#), and the [Public Health Commons](#)

Repository Citation

Okoli, Chizimuzo T.C.; Hahn, Ellen J.; Browning, Steven R.; and Rayens, Mary Kay, "Exposure to Secondhand Smoke and Nicotine Dependence" (2005). *Nursing Presentations*. 28.

https://uknowledge.uky.edu/nursing_present/28

This Presentation is brought to you for free and open access by the College of Nursing at UKnowledge. It has been accepted for inclusion in Nursing Presentations by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.

Exposure to Secondhand Smoke and Nicotine Dependence

Chizimuzo T.C. Okoli, MSN, RN,
Ellen J. Hahn, DNS, RN,
Stephen Browning, PhD
Mary Kay Rayens, Ph D



Acknowledgement

- Funding from the American Legacy Foundation

Background

- Nicotine dependence (ND) : “the smoking behavior accompanied by a reluctance to quit (Khurana, Batra, Patkar, & Leone, 2003).
- The US Public Health Service Clinical Practice Guideline ‘Treating Tobacco Use and Dependence’: A chronic condition that often requires repeated interventions (Office of the Surgeon General, 2000).
- Secondhand Smoke (SHS) is a potential source of exposure to high levels of nicotine.
(Dimich-Ward, Gee, Brauer, Leung, 1997)
- No current studies addressing the contribution of SHS to Nicotine Dependence (ND) or smoking behaviors

Specific Aims

- Determine the relationship between reported SHS exposure and nicotine dependence
- Assess differences in nicotine dependence by number of sources of SHS exposure
- Explore the relationship between SHS exposure on intention to quit and cessation attempts

Methods

- Secondary Data Analysis of 822 smokers enrolled in controlled trial of a Quit and Win (2001) Contest (Hahn, et al, 2004)
 - 365 Treatment Group
 - 472 Control Group

Measures

■ SHS Exposure

- Days/Hours of exposure in the home
- Days/Hours of exposure in the car
- Sources of exposure (none, either home or car, both home and car)
- Number of household smokers

■ Nicotine Dependence

- Fagerstrom Tolerance Questionnaire

Measures

■ Smoking Status/History

- Light smoker (1-10 cigarettes per day)
- Moderate smoker (11- 20 cigarettes per day)
- Heavy smoker (21 or more cigarettes per day)
- Age when you first tried cigarettes

■ Smoking Cessation/Readiness to Quit

- Have you attempted to quit smoking in the past year ?
(yes/no)
- Have you attempted to quit smoking in the past year and were successful for 24 hours (yes/no)
- Do you plan to quit smoking in the next 6 months (yes/no)
- Do you plan on quitting smoking in the next 30 days
(yes/no)

Table 1. Sample Characteristics

<i>Characteristics</i>	<i>N</i>	<i>%</i>
Male	283	34.5
Female	537	65.5
Caucasian	728	89.0
African American	49	6.0
Hispanic	4	0.5
Other	37	4.5
18-30	227	27.6
31-50	416	50.6
51-65	146	17.8
66 and older	33	4.0
11 th grade or less	142	17.3
High School or GED	275	33.5
Some college or college graduate	376	45.7
Some graduate school or higher	29	3.5

Figure 1. Smoking Status

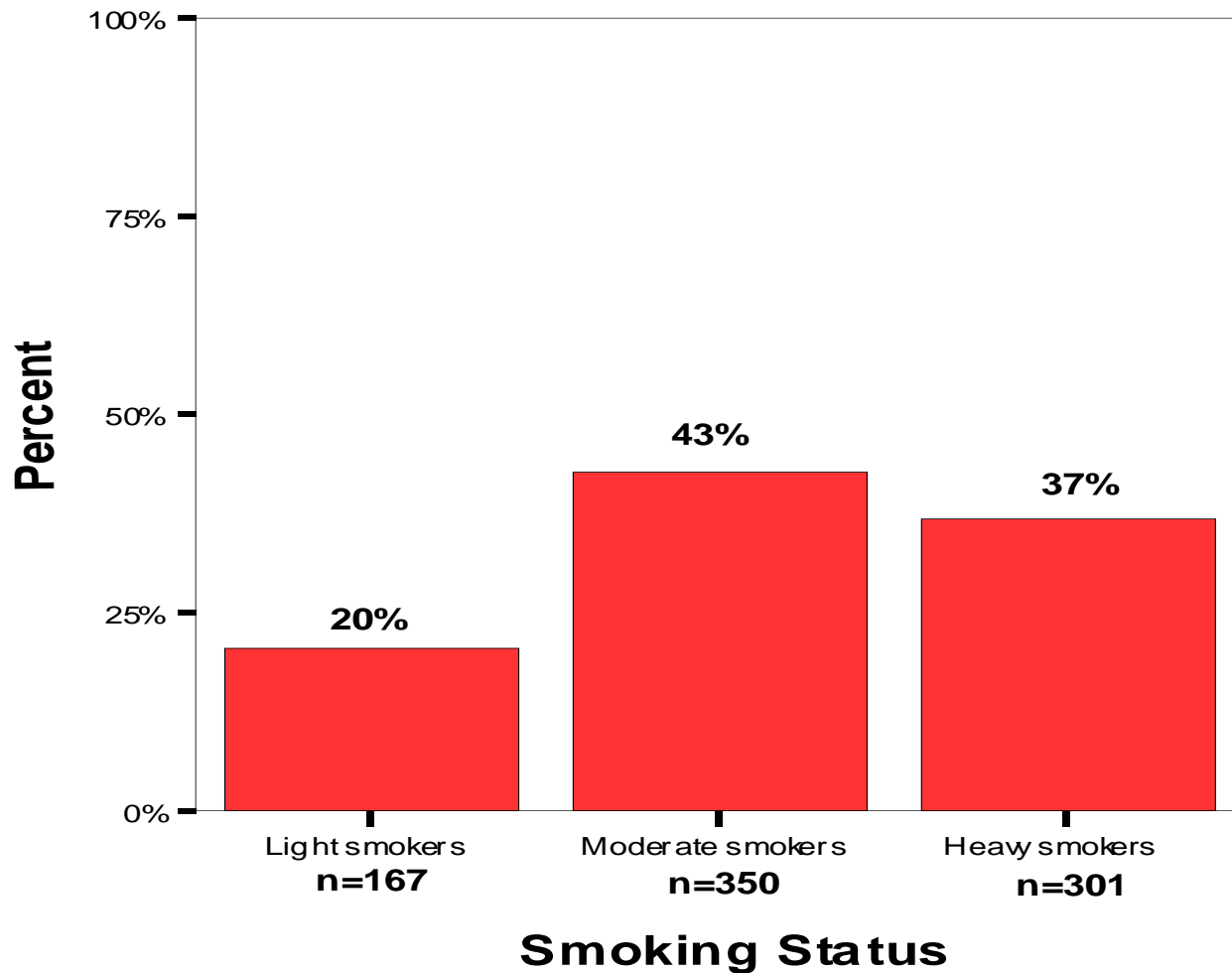


Figure 2. Sources of SHS exposure

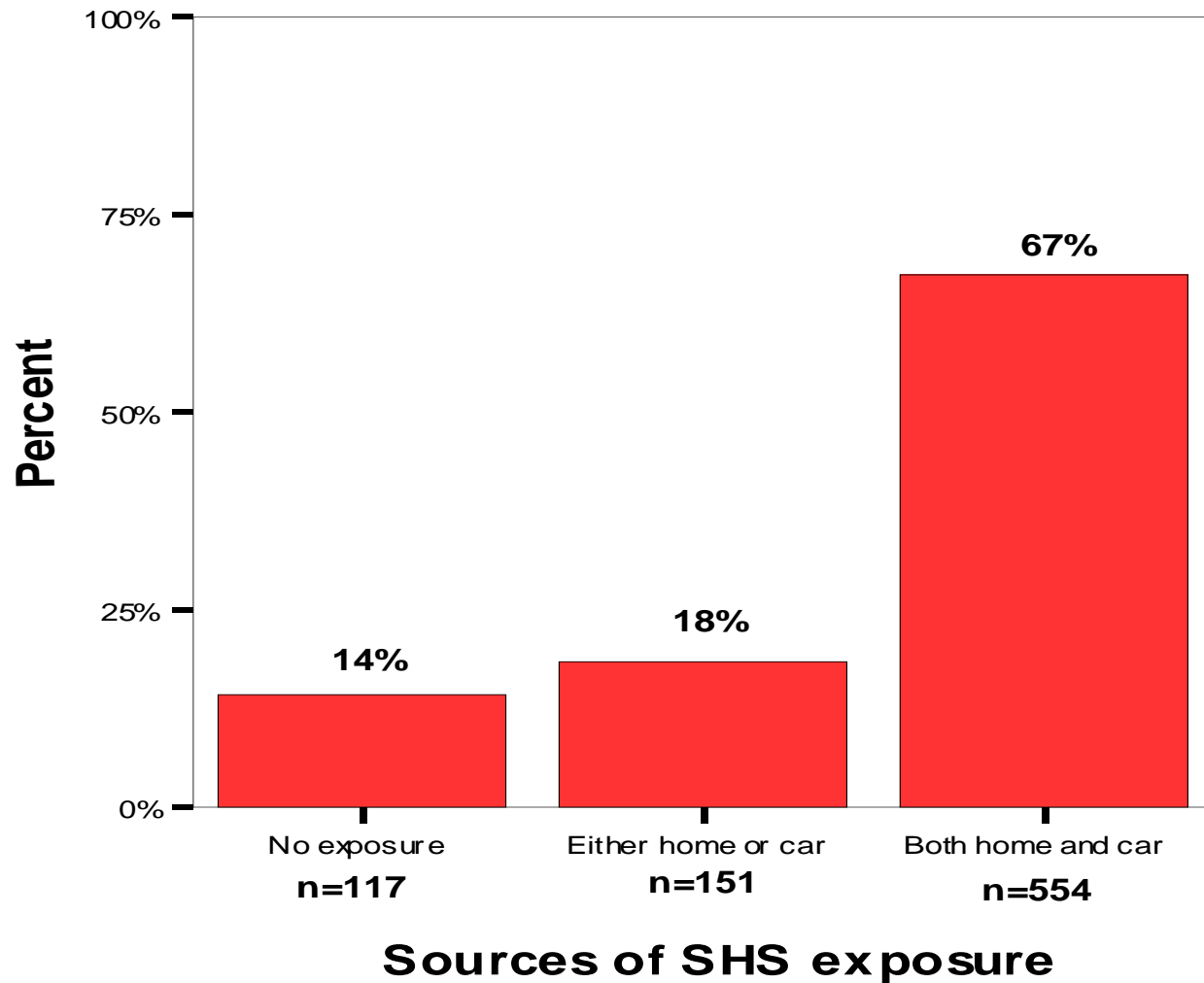


Table 2. Smoking Cessation Intentions by SHS Exposure Sources

Plan to quit in next 6 months	N	%	OR	95% CL		p
Home cigarette exposure						
Yes	641	69.4	.42	.26	.66	<.0001
No	180	84.4	1.0			
Car cigarette exposure						
Yes	617	71.8	.82	.56	1.21	.305
No	204	75.5	1.0			
Sources of exposure (both vs none or one)						
Yes	554	69.9	.63	.44	.90	.008
No	267	78.7	1.0			

Table 3. Smoking Cessation Attempts by SHS Exposure Sources

Quit for at least one day in past year	N	%	OR	95% CL		p
Home cigarette exposure						
Yes	640	44.5	.54	.38	.76	<.0001
No	180	60.0	1.0			
Car cigarette exposure						
Yes	615	46.0	.74	.53	1.02	.058
No	205	53.7	1.0			
Sources of exposure (both vs none or one)						
Yes	552	44.9	.69	.51	.94	.014
No	268	54.1	1.0			

Table 4. SHS exposure and Nicotine Dependence

Variables	1	2	3	4
1. Exposed to cigarettes at home				
2. Exposed to cigarettes in the car	.49			
3. Sources of exposure (none, one, both)	.82	.86		
4. Smoking Status (low, moderate, heavy)	.24	.25	.28	
5. FTQ score	.24	.22	.26	.67

$p \leq .0001$

Table 5. Differences in FTQ Scores by Smoking Status and Sources of Exposure

Smoking Status	ANOVA			
	n	Mean FTQ	p	LSD
Light	167	2.87	.278	ND
Moderate	350	4.82	.312	ND
Heavy	301	6.44	.023	B<C

B = One source of exposure

C = Both car and home exposure

ND = No difference

Table 6 . Final Model Predicting Nicotine Dependence

$R^2 = .15$ ($F=15.6$, $p < .0001$)

Variables	B	Std err	Beta	t	p
Constant	5.459	.821		6.647	<.0001
Plan to quit in next 6 months	-.578	.750	-.030	-.770	.441
Plan to quit in next 30 days	-.148	.187	-.031	-.790	.430
Gender	.313	.157	.076	1.995	.047
How old had cigarette first time	-.562	.136	-.158	-4.126	<.0001
Exposed to cigarettes in the home	.788	.196	.177	4.027	<.0001
Exposed to cigarettes in the car	.735	.193	.166	3.798	<.0001
Successful quitting for one day in past year	-.513	.151	-.131	-3.398	.001

Conclusions

- The greater the number of sources of SHS exposure, the less likely smokers are to intend and attempt to quit.
- Heavy smokers with greater SHS exposure have higher ND scores. Exposure does not have as much impact on light and moderate smokers.
- SHS exposure has a significant, albeit low, contribution to ND, as measured by FTQ scores.

References

- Hahn, E.J., Rayens, M.K., Chirila, C., Paul, T., Riker, C., & Warnick, T.A. (2004). Effectiveness of a quit and win contest with a low income population. *Preventive Medicine*, 39, 543-550.
- Khurana, S., Batra, V., Patkar, A., & Leone, F. (2003). Twenty-first century tobacco use: it is not just a risk factor anymore. *Respiratory Medicine*, 97(4), 295-301.
- Office of the Surgeon General. (2000). *Treating Tobacco Use and Dependence*. Retrieved November 7th, 2003, from <http://www.surgeongeneral.gov/tobacco/clinpak.html>
- Dimich-Ward, H., Gee, H., Brauer, M., Leung, V. (1997). Analysis of Nicotine and Cotinine in the Hair of Hospitality Workers Exposed to Environmental Tobacco Smoke. *Journal of Occupational & Environmental Medicine*, 39(10), 946-948.

Thank You

